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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

CHEN, TE Y

ART UNIT PAPER NUMBER

2161

DATE MAILED: 10/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/820,451

Applicant(s)

CU ET AL.

Examiner

Susan Y. Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. <u>10/12/05</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____. |

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Response to Amendment

This is in response to amendment filed on 07/15/2005. Claims 1-26 are pending for examination, claims 22-26 have been newly added.

Specification

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of 37 CFR 1.71(a)-(c):

(a) The specification must include a written description of the invention or discovery and of the manner and process of making and using the same, and is required to be in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which the invention or discovery appertains, or with which it is most nearly connected, to make and use the same.

(b) The specification must set forth the precise invention for which a patent is solicited, in such manner as to distinguish it from other inventions and from what is old. It must describe completely a specific embodiment of the process, machine, manufacture, composition of matter or improvement invented, and must explain the mode of operation or principle whenever applicable. The best mode contemplated by the inventor of carrying out his invention must be set forth.

© In the case of an improvement, the specification must particularly point out the part or parts of the process, machine, manufacture, or composition of matter to which the improvement relates, and the description should be confined to the specific improvement and to such parts as necessarily cooperate with it or as may be necessary to a complete understanding or description of it.

The specification is objected to under 37 CFR 1.71 because the specification failing to provide an adequate written description of the invention.

Initially, the examiner notes the separate nature of the written description requirement as contrasted to the enablement requirement of the first paragraph of 35 U.S.C. 112. See *In re Barker*, 559 F.2d 588, 194 USPQ 470 (C.C.P.A. 1977). The function of the written description requirement is to ensure that the inventor had

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possession, as of the filing data of the application here relied on, of the specific subject matter later claimed by him. See *In re Edwards*, 568 F.2d 1349, 196 USPQ 465 (C.C.P.A. 1978). The question is not merely one of literal support for the questioned claim language in the original disclosure, it is one of the disclosure of concepts. See *In re Wilder*, 736 F.2d 1516 222 USPQ 369 (Fed. Cir. 1984) and *In re Kaslow*, 707 F.2d 1366, 217 USPQ 1089 (Fed. Cir. 1983). It appears that applicants has attempted to incorporate an abstract generalized scalar function and column function into their specification to thereby support claims to any combination or permutation of features therefrom. The fact that features are mentioned individually does not mean that applicants have invented anything. There must be some evidence within the application filed that applicants were in possession of the claimed combinations. Incorporation by reference of a dictionary does not constitute disclosure of a novel which uses only words from that dictionary.

Similarly, without more, the abstract stand alone generalized scalar function and the column function do not provide support for combining any features, regardless of what applicants may teach.

To be effective in showing possession of the invention, an incorporation of the structures, links and mechanism derived from the claimed abstract generalized function to simulate the conventional column function environment which specifically contribute to the claimed features and for what purpose should be disclosed.

Specification Objection (continue)

The specification is objected to under 37 CFR 1.71 because the specification fails to provide an enabling description of the claimed invention.

The instant specification fails to disclose the actual, practical steps of a simulation mechanism and the corresponding data structures for simulating the claimed abstract generalized scalar function with row parameters into an abstract column environment. Particularly, the submitted specification merely recites allowing a user to specify at least one row for the claimed abstract generalized scalar function to simulate an abstract column environment for an abstract column function to be performed on the row without disclosing the actual, practical steps for forming the claimed abstract generalized scalar function, activating the claimed abstract generalized scalar function initializing the first entry, evaluating each entry and finalizing the last entry of the at least one row, such that the simulating of a column environment will produce a useful, concrete, and tangible result.

If applicants continue to prosecute the application, revision of the specification and claims to present the application in proper form is required. While an application can be amended to make it clearly understandable, no new subject matter can be added that was not disclosed in the application as originally filed.

Specification Objection (continue)

The amendment filed on July 15, 2005 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no

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amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

“In the example above, finding the minimum of row 6, the generalized scalar function may provide to the column function the data from each entry in row 6 for each column 2, 3, 4, and 5. The column function would receive entry 11 (from column 2), entry 12 (from column 3), entry 13 from (column 4) and entry 14 (from column 5) from the generalized scalar function. The generalized scalar function may function in an analogous manner when multiple rows are to be used.”

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 101

Claims 1-26 are rejected under 35 U.S. C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-26 recite an idea of utilizing a column function in a structure query language (SQL) environment for intended use in the preamble. However, the steps in the claim body merely allows the individual to specify at least one row as an argument for an abstract generalized scalar function to simulate an abstract column environment thereby. The “allowing” phrase repeatedly recited in independent claims 1, 8 and 15 does not cause any functionality to occur in the computer system. This is demonstrated by the absent recitation of any code or steps for causing a computer to do anything. Instead, it merely ensures that there is no code or steps that prohibit a computer system

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from doing the recited acts. Furthermore, during a telephone interview initiated by the instant application attorney -- Ms. Janyce R. Mitchell -- on July 8, 2005, the attorney on record indicated that the instant invention deals with reversing a matrix (or a table). Therefore, since the claimed invention, as a whole, does not appear to provide a useful, concrete and tangible result, as such, these claims only constitute an idea and does not apply, involve, use, or advance the technological arts and are directed to non-statutory subject matter.

To expedite a complete examination of the instant application the claims rejected under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 1, 8, and 15, it is unknown what is the structure of the claimed generalized scalar function, How could this generalized function transform the claimed

at least one row to simulate "a column environment" for the row as through the row was a column (i.e., what is the relationship of the claimed column environment and the "SQL" environment; how to associate the claimed generalized function with the column function performed on an indeterminate number of entries; what are these entries).

As to claims 6, 13, and 20, it is unclear: what was initialized to the claimed first entry, what was evaluated on each entry of the claimed at least one row, what was finalized after the evaluation of the last entry of the at least one row, or what is the purpose to perform the claimed initialization, evaluation, and finalization phases.

As to claims 2-7, 9-14 and 16-26, these claims have the same defects as their base claims, hence are rejected for the same reasons.

Because the ambiguous nature of instant invention, the following art rejection is to the best of the examiner ascertain.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

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only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Melton et al. (U.S. Patent No. 6,289,336).

As to claim 1, 8, 15 and 25, Melton et al. (hereinafter referred as Melton) discloses a database query system with means, method and computer program product as claimed by applicant, to perform query in a structure query language (SQL) environment [e.g., the unit (100, Fig. 1)] comprising the following functions:

a) an interface for allowing a user to specify row argument for a generalized scalar function [e.g., The user interface (106, Fig. 1) allows a user of the system to mark a SQL statement execution request (152, Fig. 2) as cited in the standard SQL statement " SELECT ROWS SINCE (THIS (LOWTEMP) > LOWTEMP)..." (col. 12, lines 44-67).];

b) a SQL compiler simulates a column environment for the at least one row using the generalized scalar function to allow the at least one row to be provided to the column function as though the at least one row was a column [e.g., the SQL compiler unit (118, Fig. 1) and associated texts specifically at col. 3, line 65 – col. 4, line 11; the Improved Procedure for Computing Offset Function at col. 7, lines 60 - col. 8, line 44, Fig(s). 5-6 and associated texts; the normalization processing performed by the compiler upon the set of Running and Moving Sequence Functions at col. 11, line 6 – col. 12, line 32; and the Normalization process for Rows since function at col. 13, lines 62 – col. 14, line 60; Table 7 and associated texts].

c) a Central Processing Unit (CPU) coupled to SQL executor to perform the column function on the at least one row to provide at least one output. [for example,

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CPU (102, Fig. 1) coupled to SQL executor (120, Fig. 1) which interprets on the set of complied definition blocks (150, Fig. 1) to build at least one execution tree (138, Fig. 1) for the CPU to execute the entries of the tree by converting the Rows Since (search condition) sequence function, evaluating each Offset sequence function using previously stored auxiliary fields/columns to provide a single scalar output (i.e., a distance in rows of the table between the current row and a first previous row that satisfies the search condition as specified by the Rows Since () at col. 16, lines 27-67].

As to claims 2-3, 6-7, 9-10, 13-14, 16-17, 20-24 and 26, Melton further discloses the generalized scalar function fetches at least one row [e.g., Melton: the Rows Since ()function, the Offset sequence functions; the running and moving sequence functions, col. 3, lines 4-23]; and use the scalar function to simulate the column function for repeating the initialization, evaluation and finalization phases to provide an output for a dynamic number of entries in the row [e.g., Melton: col. 7, lines 24 – col. 8, line 41, col. 8, lines 62 – col. 10, line 8, Table 5 and associated texts].

As to claims 4-5, 11-12 and 18-19, the combined system further discloses that the column function provides a maximum of each of the at least one row [e.g., Melton: the RunningMax(a); col. 10, lines 21-22] and a minimum of each of the at least one row [e.g., Melton: the RunningMin(a); col. 10, lines 19-20].

Response to Arguments

The examiner acknowledges that the above is essentially a reinstatement of an earlier rejection on the merits. However, after a careful review of the record and

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consultation with examiners Uyen Le, Charles Rones and Safet Metjahic, it was established that the prior art anticipates each of the claimed features.

Applicant's arguments with respect to claims 1-26 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Y Chen whose telephone number is 571-272-4016. The examiner can normally be reached on Monday - Friday from 7:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 571-272-4023. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Susan Y Chen
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October 12, 2005


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